

Multidisciplinary Optimization Object Library, Phase II

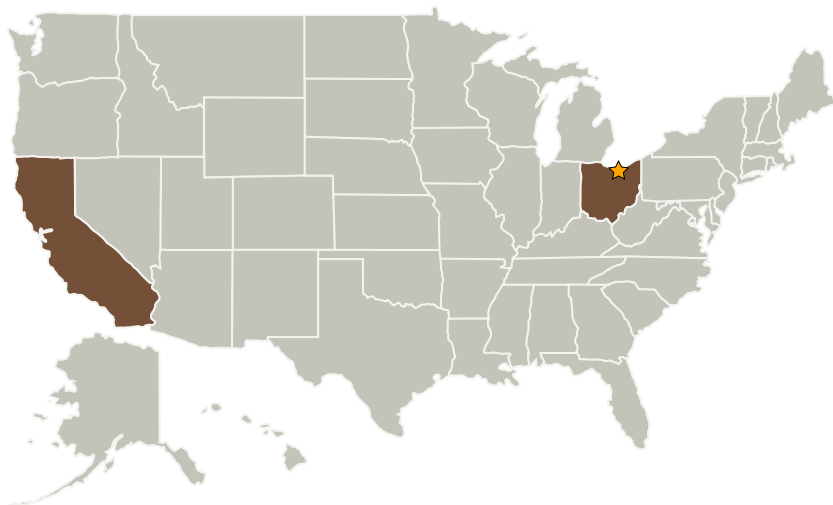
Completed Technology Project (2007 - 2009)



Project Introduction

The development of a library of Common MDO Objects is proposed, in which the software objects will automate a variety of recurring problems in the development of MDO systems. The focus of the Phase I project was development of MDO objects to implement multi-fidelity modeling and simulation within MDO systems, and to implement general inter-disciplinary mapping/coupling algorithms that can apply to disciplines such as aerodynamics, structures, and thermal. These modules will make it much easier to develop MDO applications, as the common issues can be solved by simply selecting the appropriate "MDO Object". In Phase II we extend this to the problems of design space exploration, uncertainty quantification, and analysis/test correlation, and demonstrate the approach on a set of MDAO problems.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Glenn Research Center(GRC)	Lead Organization	NASA Center	Cleveland, Ohio
M4 Engineering, Inc.	Supporting Organization	Industry Women-Owned Small Business (WOSB)	Long Beach, California



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Glenn Research Center (GRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

California

Ohio

Project Transitions



December 2007: Project Start



December 2009: Closed out

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
 - └ TX11.6 Ground Computing
 - └ TX11.6.2 Automated Exascale Software Development Toolset